Abstract

Method and apparatus for image compression while maintaining high resolution in selected areas within the image. An acquired image is represented by a two dimensional array of MxN pixels. The array is divided into blocks of identical rectangular areas, each of which containing AxB pixels wherein A<M,N and B<M,N and M=m*A (m=2,3,...); N=n*B (n=2,3,...). Data related to the division of the array into blocks is stored and a threshold level of pixel attribute value is determined. The average attribute value of each block is calculated and stored. The average attribute value of each block is compared to the average attribute value of its adjacent blocks. Whenever the difference between two adjacent compared blocks is greater then the threshold level and as long as the block size is larger than one pixel, the adjacent compared blocks are divided into sub-blocks, each of which containing A/2xB/2 pixels and data related to the division of the adjacent compared blocks into sub-blocks is stored. The average attribute value of each sub-block is calculated and the stored average attribute value of each sub-block is compared to the stored average attribute value of its adjacent sub-blocks. Whenever the difference between two adjacent compared blocks or sub-blocks is lower than, or equal to, the threshold level, the blocks or sub-blocks are represented by representative pixels with identical attributes level which is equal to the average attribute value of the pixels that correspond to the compared block or sub-block, thereby compressing the image.